(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 26 October 2000 (26.10.2000)

PCT

(10) International Publication Number WO 00/63397 A3

- (51) International Patent Classification⁷: 15/11, A01H 1/04
- C12N 15/82,
- (21) International Application Number: PCT/EP00/03521
- (22) International Filing Date: 17 April 2000 (17.04.2000)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

09/294,022

20 April 1999 (20.04,1999) US

- (71) Applicant: AVENTIS CROPSCIENCE N.V. [BE/BE]; Jozef Plateaustraat 22, B-9000 Gent (BE).
- (72) Inventors: MEULEWAETER, Frank; Weehaagstraat 73, B-9160 Eksaarde (BE). CORNELISSEN, Marc; Ellebogten 38, B-9070 Heusden (BE). JACOBS, John; Wilgenstraat 4, B-9820 Merelbeke (BE). VAN ELDIK, Gerben; Nekkersberglaan 41, B-9000 Gent (BE). MET-ZLAFF, Michael; Irislaan 26, B-3080 Tervuren (BE).

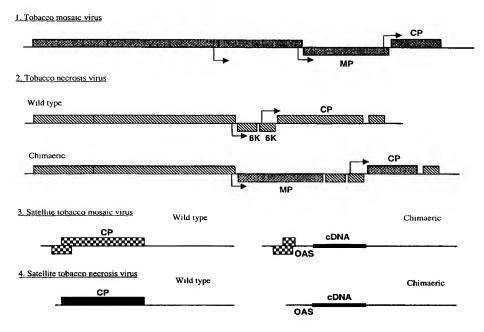
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

- With international search report.
- Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.
- (88) Date of publication of the international search report: 1 February 2001

[Continued on next page]

(54) Title: METHODS FOR DELIVERING INHIBITORY RNA TO PLANTS AND APPLICATIONS THEREOF



(57) Abstract: The invention provides methods and means for the identification of genes involved in the determination of a plant trait or for the identification encoded by a nucleic acid comprising a determined nucleotide sequence. The invention also provides kits comprising viral RNA vectors derived from satellite viruses and corresponding helper viruses for the introduction of inhibitory RNA into plant cells and plants.





For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

onal Application No

PCT/EP 00/03521 A. CLASSIFICATION OF SUBJECT MATTER IPC 7 C12N15/82 C12N C12N15/11 A01H1/04 According to International Patent Classification (IPC) or to both national classification and IPC **B. FIELDS SEARCHED** Minimum documentation searched (classification system followed by classification symbols) IPC 7 C12N A01H Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, PAJ, BIOSIS C. DOCUMENTS CONSIDERED TO BE RELEVANT Relevant to claim No. Category * Citation of document, with indication, where appropriate, of the relevant passages 32 - 35X WO 95 34668 A (BIOSOURCE TECH INC) 21 December 1995 (1995-12-21) 43-46 cited in the application abstract page 7, line 33 -page 11, line 4 1 HAMILTON ANDREW J ET AL: "A transgene with repeated DNA causes high frequency, post-transcriptional suppression of ACC-oxidase gene expression in tomato" PLANT JOURNAL, BLACKWELL SCIENTIFIC PUBLICATIONS, OXFORD, GB, vol. 15, no. 6, 1998, pages 737-746, XP002146504 ISSN: 0960-7412 cited in the application -/--Further documents are listed in the continuation of box C. Patent family members are listed in annex. X Special categories of cited documents : "T" later document published after the international filing date or priority date and not in conflict with the application but "A" document defining the general state of the art which is not cited to understand the principle or theory underlying the considered to be of particular relevance invention "E" earlier document but published on or after the international "X" document of particular relevance; the claimed invention filing date cannot be considered novel or cannot be considered to "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docu-"O" document referring to an oral disclosure, use, exhibition or ments, such combination being obvious to a person skilled other means in the art. "P" document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 15 November 2000 22/11/2000 Name and mailing address of the ISA Authorized officer European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijewijk Tel. (+31-70) 340-2040, Tx. 31 651 epo ni,

Fax: (+31-70) 340-3016

Ceder, 0

INTERNATIONAL SEARCH REPORT

Int tional Application No PCT/EP 00/03521

	ation) DOCUMENTS CONSIDERED TO BE RELEVANT		
ategory °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
A	WO 98 36083 A (ANGELL SUSAN MARY ;BAULCOMBE DAVID CHARLES (GB); PLANT BIOSCIENCE) 20 August 1998 (1998-08-20) abstract	1	
A	WO 98 53083 A (LOWE ALEXANDRA LOUISE;GRIERSON DONALD (GB); ZENECA LTD (GB); HAMI) 26 November 1998 (1998-11-26) cited in the application		
P,X	WO 99 36516 A (FITZMAURICE WAYNE P ;HANLEY KATHLEEN M (US); LINDBO JOHN A (US); M) 22 July 1999 (1999-07-22)	1-3,14, 15, 20-26, 28, 32-34, 38,	
	page 4, line 24 -page 10, line 25 page 20, line 11 - line 18 page 22, line 1 - line 15 page 38, line 16 - line 17 page 39, line 23 - line 31	43-45,49	

1

INTERNATIONAL SEARCH REPORT

Information on patent family members

into Jonal Application No PCT/EP 00/03521

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 9534668	A	21-12-1995	US 5922602 A AU 710588 B AU 2653495 A CA 2193094 A EP 0804600 A JP 10501968 T ZA 9504451 A		13-07-1999 23-09-1999 05-01-1996 21-12-1995 05-11-1997 24-02-1998 05-02-1996
WO 9836083	Α	20-08-1998	AU EP	6001698 A 0970228 A	08-09-1998 12-01-2000
WO 9853083	Α	26-11-1998	AU EP	7444298 A 0983370 A	11-12-1998 08-03-2000
WO 9936516	Α	22-07-1999	AU EP	2328699 A 1045899 A	02-08-1999 25-10-2000